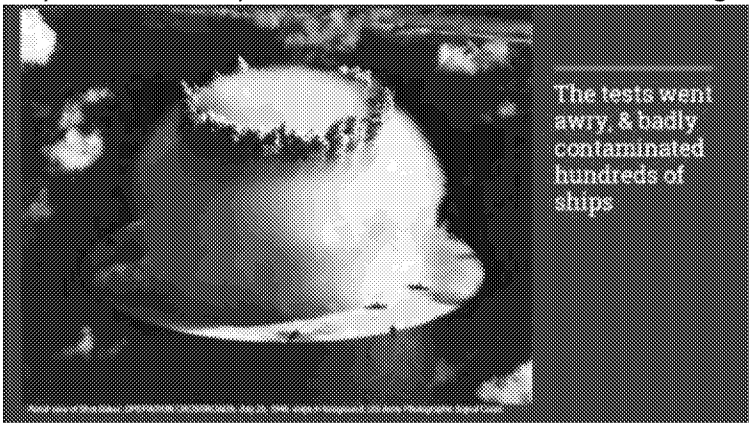
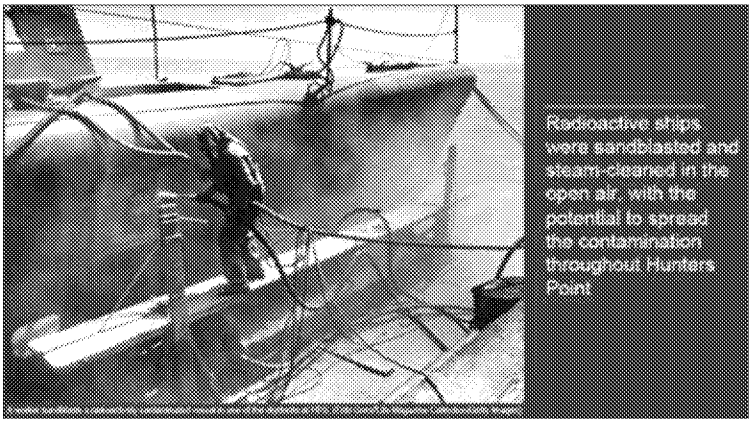
Message

From: Walker, Stuart [Walker.Stuart@epa.gov]
Sent: 2/15/2019 7:00:11 PM
To: LEE, LILY [LEE.LILY@EPA.GOV]; Sanchez, Yolanda [Sanchez.Yolanda@epa.gov]; Chesnutt, John [Chesnutt.John@epa.gov]; Fairbanks, Brianna [Fairbanks.Brianna@epa.gov]; Nguyen, Lyndsey [Nguyen.Lyndsey@epa.gov]
Subject: RE: Newer material slides 54 -99, 116-118 FW: Hunters Pt presentation for Friday

Below I had some quick thoughts/reactions. If you want to discuss before the conf call or next week, we can chat. I don't think I have anything that I would personally ask during the meeting today. I am on a call right now, but should be off within a half hour or so.

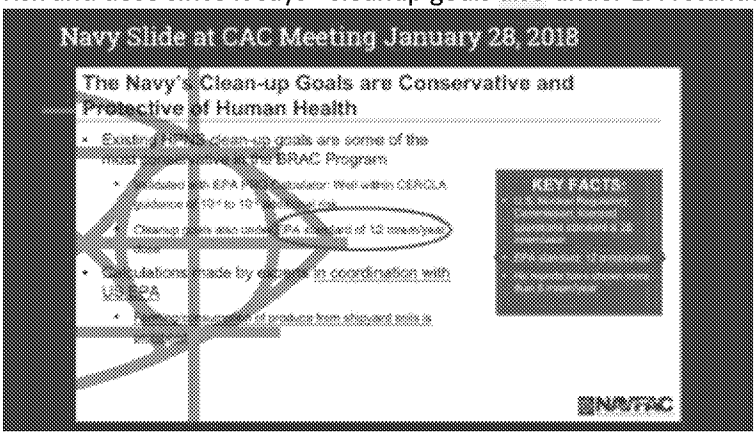
Pertaining to the slides that discuss radionuclide COC's and the ships that were exposed during nuclear bomb testing, on page 70 of the LLNL *report Results of calculations of external gamma radiation exposure rates from local fallout and the related radionuclide compositions of two hypothetical 1-MT nuclear bursts* lists radioactivity levels for radionuclides (except for plutonium) out to 50 years from nuclear testing.
https://inis.iaea.org/collection/NCLCollectionStore/_Public/16/063/16063842.pdf?r=1&r=1
The plutonium levels are discussed in the LLNL report *Nevada Test Site Fallout Atom Ratios: 240Pu/239 Pu and 241Pu/239 Pu*
https://www.osti.gov/servlets/purl/5303010
LLNL reports show interest in about 22 radionuclides after 50 years (there are 900-1,000 at detonation but most have very short half-lives). Even some of the 22 evaluated in longer time frames had very large decreases



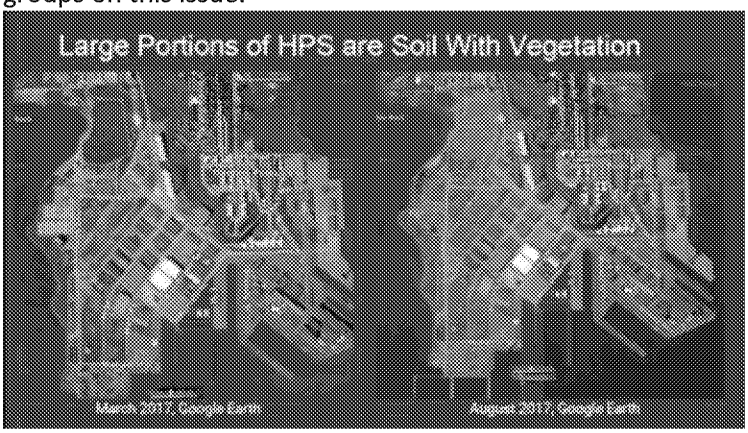


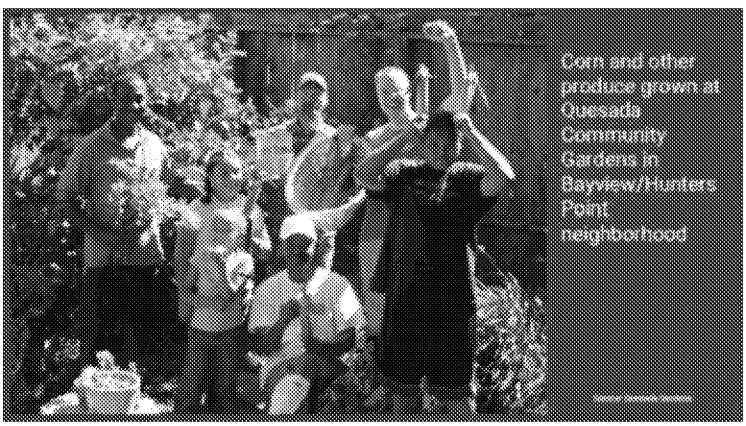
Slide 54. If this is a Navy slide, I'm not sure if the Navy used dose/DCC calculator instead of risk/PRG (which would likely be inconsistent with our guidance) to evaluate the old cleanup concentrations, or used risk/PRG and dose/DCC (which

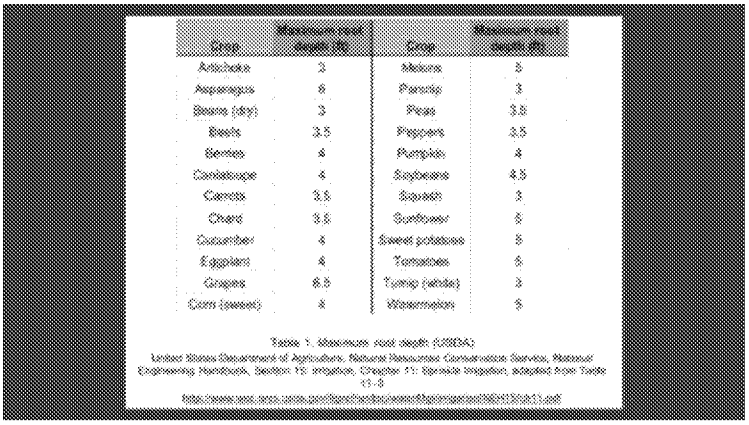
would be adding an unnecessary dose assessment to the risk assessment). My guess would be they analyzed using both risk and dose since it says "Cleanup goals also under EPA standard of 12 mrem/yr"



There were a lot of interesting slides on depth of plant roots, animals burrowing and vegetation currently growing onsite. I don't know if there is anything here that is new or that cannot be refuted by how the IC's are written to not allow breaching of the cap. Since the inclusion or absence of gardening has a very significant effect on the risk assessment and therefore risk based cleanup levels, it would be prudent to think about engaging with the community groups on this issue.

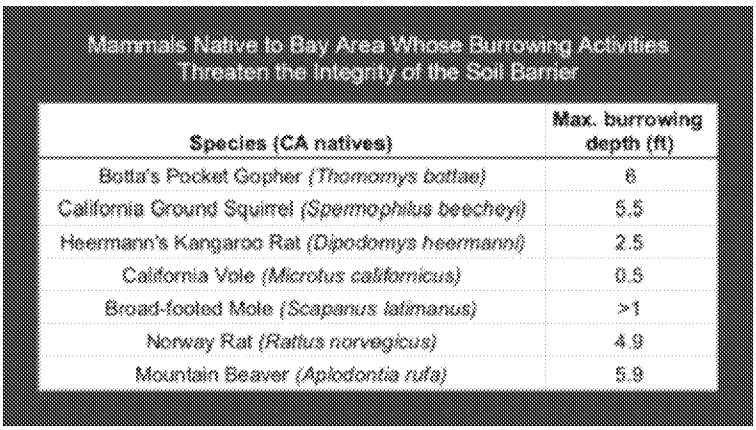






Crop	Maximum root depth (ft)	Crop	Maximum root depth (ft)
Artichoke	3	Melons	5
Asparagus	4	Parsnip	3
Beans (dry)	3	Peas	3.5
Beets	3.5	Peppers	3.5
Berries	4	Pumpkin	4
Cantaloupe	4	Soybeans	4.5
Carrots	3.5	Spinach	3
Chard	3.5	Sunflower	5
Cucumber	4	Sweet potatoes	5
Eggplant	4	Tomatoes	5
Grapes	6.5	Turnip (white)	3
Corn (sweet)	4	Watermelon	5

Table 1: Maximum root depth (USDA)
United States Department of Agriculture, Natural Resources Conservation Service, National Engineering Handbook, Section 15: Irrigation, Chapter 11: Sprinkle Irrigation, adapted from Table 11-3



Mammals Native to Bay Area Whose Burrowing Activities Threaten the Integrity of the Soil Barrier

Species (CA natives)	Max. burrowing depth (ft)
Botta's Pocket Gopher *(Thomomys bottae)*	6
California Ground Squirrel *(Spermophilus beecheyi)*	5.5
Heermann's Kangaroo Rat *(Dipodomys heermanni)*	2.5
California Vole *(Microtus californicus)*	0.5
Broad-footed Mole *(Scapanus latimanus)*	>1
Norway Rat *(Rattus norvegicus)*	4.9
Mountain Beaver *(Aplodontia rufa)*	5.9

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Most of other slides similar to previous presentations

From: DanielHirsch <dhirsch1@cruzio.com>
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Subject: Hunters Pt presentation for Friday

Our presentation for tomorrow on Hunters Point can be accessed at:

https://docs.google.com/presentation/d/1d4WipSTZ-mtb9Bs034YqjfMyn-vgeExJM7eIo7ENW7k/edit?usp=sharing

You can view it in Google Slides, or under the File menu, one can pull down to Download, whereby one can download it as a PowerPoint file or a PDF.

We look forward to talking with you tomorrow.

Best wishes,

Dan Hirsch